

THEMBELIHLE LOCAL MUNICIPALITY

PROPOSED STEYNVILLE SEWAGE OUTFALL PIPELINE DEVELOPMENT

Hope Town, Thembelihle Local Municipality, Northern Cape



DRAFT BASIC ASSESSMENT REPORT FOR COMMENT

in terms of the National Environmental Management Act, No. 107 of 1998 (as amended)
and associated environmental impact assessment regulations, 2014

(VOLUME 1 OF 1)

14 June 2019

DRAFT BASIC ASSESSMENT REPORT



the denc

Department:
Environment & Nature Conservation
NORTHERN CAPE PROVINCE
REPUBLIC OF SOUTH AFRICA

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File Reference Number:

Application Number:

Date Received:

Basic Assessment Report in terms of the Environmental Impact Assessment Regulations, 2014, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

Kindly note that:

1. This **basic assessment report** (BAR) is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2014 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. This report format is current as of 07 April 2017. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority.
3. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
4. Where applicable **tick** the boxes that are applicable in the report.
5. An incomplete report may be returned to the applicant for revision.
6. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
7. This report must be handed in at offices of the relevant competent authority as determined by each authority.
8. No faxed or e-mailed reports will be accepted.
9. The signature of the EAP on the report must be an original signature.
10. The report must be compiled by an independent environmental assessment practitioner.
11. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
12. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
13. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.

SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section?

YES ✓	NO
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If YES, please complete the form entitled "Details of specialist and declaration of interest" for the specialist appointed and attach in Appendix I.

1. ACTIVITY DESCRIPTION

a) Describe the project associated with the listed activities applied for

The proposed construction of a new waste water (sewage) outfall pipeline for Steynville (Hopetown), Thembelihle Municipality, Northern Cape which involves the excavation and laying of over 2000m of 400mm ID uPVC and steel pipeline.

All proposed alternatives for the route will cross underneath the N12 national road via pipe-jacking and will also cross some watercourses *en route* to the outfall point (near the existing sewage treatment plant's oxidation ponds). When crossing the actual watercourses, engineered construction to prevent damage or breakage of the pipeline during a possible flood event, may need to be undertaken which may require infilling of more than 10m³ of material/soil.

From the outfall point the sewage will be pumped to the existing sewage treatment plant. The scope of this environmental assessment and associated application is just for the development of a new sewage outfall **pipeline** from Steynville to the sewage outfall point.

The general landscape selected for the proposed development may be described as sloping with various natural watercourses that will need to be crossed. The site falls from east to west with a height difference of thirty two (32) metres over a distance of approximately 1000 (prevailing gradient of 1:31).

Geotechnical investigations have not been conducted, but It is commonly known that very hard rock conditions (calcrete formation) occur within the surrounding areas. It is these rock conditions that result in the shortest gravity fed pipeline route (Alternative Route 3) being unfeasible for development since the substrate is too hard. Alternative 3 also traverses very close to the graveyard of heritage significance identified in the region (but more than 50m away from the graveyard)

Hopetown lies on the edge of the great Karoo and is situated on an arid slope leading down to the Orange River. The average rainfall is 199mm of rainfall per year, making is an arid, semi-desert zone. Due to the average altitude of 1200m on the central high-plateau, temperatures in summer are between 30 – 50 degree Celsius.

From the BGIS vegetation maps (Appendix B of the DBAR), the proposed pipeline will fall within Kimberley Thornveld, which is not protected in terms of National Environmental Management: Biodiversity Act 2004, National List of Ecosystems that are threatened and in need of protection (NEMBA). As per the Botanical Assessment, vegetation consists of dwarf shrubland and grasslands. These shrub lands occur on the gently sloping arid pediments and soils are weakly structured. The main grasses are *Eragotis lehmanniana* and *Stripagrotis*.

The site falls within a Critical Biodiversity Area (CBA) and also falls within a National Freshwater Ecological Support Area (NFEPA) in terms of the NFEPA map (Appendix B of the DBAR). The map also indicates that the proposed site falls within a Fish Support Area.



Figure 1: Google image indicating the proposed pipeline route in green, in proximity to Hopetown, the existing sewage works and the Orange River.



Figure 2: Google image indicating the proposed pipeline route in green, drainage lines to the Orange River clearly visible to the North of the proposed development.

It is proposed that the new sewage outfall line discharge sewage to existing oxidation ponds. Taking into consideration the estimated peak wet weather flow of 55.65 l/s and a design life of at least 20 years, it is envisaged that a new 400mm diameter uPVC (and closer to the outfall area, steel) pipeline be constructed starting at point A (refer to Figure 26 in Appendix C) near the N12. The new

line will be longer (when compared to the existing line), with more suitable slopes, eliminating the need for drop inlets, as well as the pump stations in Tamboville and Vergenoeg in future planning. The length of all the proposed alternative pipeline routes, is over 2000m with Alternative Route 2 being the longest route (Over 2400m) and therefore, the most financially unfeasible alternative.

b) Provide a detailed description of the listed activities associated with the project as applied for

Listed activity as described in GN 327, 325 and 324	Description of project activity
<p>Example: GN 327 Item xx xx): The construction of a bridge where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.</p>	<p>A bridge measuring 5 m in height and 10m in length, no wider than 8 meters will be built over the Orange river</p>
<p>GN 327, LN 1, Activity 10 "The development and related operation of infrastructure exceeding 1000 metres in length for the bulk transportation of sewage, effluent, process water, waste water, return water, industrial discharge or slimes</p> <p>(i) with an internal diameter of 0,36 metres or more; or</p> <p>(ii) with a peak throughput of 120 litres per second or more;</p> <p>excluding where;</p> <p>a) such infrastructure is for the bulk transportation of sewage, effluent, process water, waste water, return water, industrial discharge or slimes inside a road reserve or railway line reserve; or</p> <p>where such development will occur within an urban area."</p>	<p>The proposed project involves the development of a new waste water (sewage outfall) pipeline from Steynville (Hope Town) to the pump station outfall point, traversing an approximate distance of more than 2000 metres.</p>
<p>GN 327, LN 1, Activity 12 "The development of;</p> <p>(i) dams or weirs, where the dam or weir, including infrastructure and water surface area, exceeds 100 square metres;</p> <p>(ii) infrastructure or structures with a physical footprint of 100 square metres or more;</p> <p>where such development occurs;</p>	<p>The development of the new waste water (sewage outfall) pipeline crosses several watercourses <i>en route</i> to the pump station from Steynville (Hope Town)</p>

<p>(a) within a watercourse;</p> <p>(b) in front of a development setback; or</p> <p>(c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse;</p> <p>Excluding:</p> <p>(aa) the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour;</p> <p>(bb) where such development activities are related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies;</p> <p>(cc) activities listed in activity 14 in Listing Notice 2 of 2014 or activity 14 in Listing Notice 3 of 2014, in which case that activity applies;</p> <p>(dd) where such development occurs within an urban area; or</p> <p>(ee) where such development occurs within existing roads or road reserves or railways line reserves; or</p> <p>(ff) The development of temporary infrastructure or structures where such infrastructure or structures will be removed within 6 weeks of the commencement of development and where indigenous vegetation will not be cleared”.</p>	
<p>GN 327, LN 1, Activity 19 “The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a <u>watercourse</u>;</p> <p>(a) will occur behind a development setback;</p> <p>(b) is for maintenance purposes undertaken in accordance with a maintenance management plan; or</p> <p>(c) falls within the ambit of activity 21 in this Notice, in which case that activity applies.”</p>	<p>The watercourses which will be crossed by the proposed development, consist of a drainage line and two of its tributaries. When crossing the actual drainage line, engineered construction to prevent damage or breakage of the pipeline during a possible flood event, must be undertaken.</p>

<p>GN 327, LN 1, Activity 46 “The expansion and related operation of infrastructure for the bulk transportation of sewage, effluent, process water, waste water, return water, industrial discharge or slimes where the existing infrastructure;</p> <p>(i) has an internal diameter of 0,36 metres or more; or</p> <p>(ii) has a peak throughput of 120 litres per second or more; and</p> <p>a) where the facility or infrastructure is expanded by more than 1000 metres in length; or</p> <p>b) where the throughput capacity of the facility or infrastructure will be increased by 10% or more;</p> <p>excluding where such expansion;</p> <p>(aa) relates to the bulk transportation of sewage, effluent, process water, waste water, return water, industrial discharge or slimes within a road reserve or railway line reserve; or</p> <p>(bb) will occur within an urban area”.</p>	<p>The proposed project involves the development of a new waste water (sewage outfall) pipeline from Steynville (Hope Town) to the outfall point at the pump station, over 2000 metres away. The proposed development follows a new pathway and the old pipeline may be retained by the municipality. The proposed new pipeline would therefore result in additional capacity and be deemed an expansion.</p>
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2. FEASIBLE AND REASONABLE ALTERNATIVES

“**alternatives**”, in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

- (a) the property on which or location where it is proposed to undertake the activity;
- (b) the type of activity to be undertaken;
- (c) the design or layout of the activity;
- (d) the technology to be used in the activity;
- (e) the operational aspects of the activity; and
- (f) the option of not implementing the activity.

Describe alternatives that are considered in this application as required by Appendix 1 (3)(h), Regulation 2014. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity (NOT PROJECT) could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed.

The determination of whether site or activity (including different processes, etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of

this report the, competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees, minutes and seconds. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

a) Site alternatives

See linear activity alternatives below

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

In the case of linear activities:

Alternative:

Alternative S1 (preferred)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

Latitude (S):

Longitude (E):

29°36'37.91"S	24° 6'19.25"E
29°36'28.20"S	24° 6'2.55"E
29°36'36.13"S	24° 5'24.40"E

Alternative S2

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

29°36'37.91"S	24° 6'19.25"E
29°36'31.60"S	24° 5'54.79"E
29°36'36.13"S	24° 5'24.40"E

Alternative S3

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

29°36'37.91"S	24° 6'19.25"E
29°36'34.72"S	24° 5'57.28"E
29°36'36.13"S	24° 5'24.40"E

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

Please refer to Addendum A-1, under Appendix A.

In the case of an area being under application, please provide the co-ordinates of the corners of the site as indicated on the lay-out map provided in Appendix A of this form.

b) Lay-out alternatives

See linear activity alternatives in 'a' above.

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

c) Technology alternatives

None

Alternative 1 (preferred alternative)
Alternative 2
Alternative 3

d) Other alternatives (e.g. scheduling, demand, input, scale and design alternatives)

None

Alternative 1 (preferred alternative)
Alternative 2
Alternative 3

e) No-go alternative

The no-go alternative will maintain the *status quo* which currently provides an inadequate sanitation service to the local community since there are continuous difficulties with regards to blockages in the sewage reticulation system. Should the no-go alternative be pursued, the infrastructural needs to provide adequate service delivery for the current Hopetown region will be severally negatively impacted since the existing sewage outfall pipeline has proven to be inadequate to cope with the load.

In addition, future expansion of the residential areas will also be hindered since there will be no ability to soundly manage this important service.

Paragraphs 3 – 13 below should be completed for each alternative.

3. PHYSICAL SIZE OF THE ACTIVITY

- a) Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

Alternative:

Alternative A1¹ (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Size of the activity:

	m ²
	m ²
	m ²

or, for linear activities:

Alternative:

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Length of the activity:

	2135m
	2374m
	2076m

- b) Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

It is estimated that using a maximum construction width of 12m i.e. pipeline + construction footprint including establishment of temporary access along entire length of proposed route (for vehicles), the maximum size of the activity footprint will be:

Alternative:

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Footprint size of the activity:

	25620m
	28488m
	24912m

However, Alternative A1 (the preferred alternative) has a significant portion of the route that runs adjacent to existing dirt roads, thereby significantly reducing the estimated activity footprint.

Note: Although Alternative route 3 appears to have a smaller footprint surface area, much of Alternative 3's route does not follow existing road and crosses undeveloped land/veld (Refer to Appendix C).

4. SITE ACCESS

Does ready access to the site exist?

If NO, what is the distance over which a new access road will be built

YES ✓	NO
	m

Describe the type of access road planned:

For the bulk of the planned route, accessibility will be via existing roads and possibly the road reserve on the N12 national highway. For a section towards the middle of the preferred proposed alternative, the route will cross undeveloped land and a vehicle track/access road will need to be established.

¹ "Alternative A.." refer to activity, process, technology or other alternatives.

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

Refer to Appendix C.

5. LOCALITY MAP

An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map.). The map must indicate the following:

- an accurate indication of the project site position as well as the positions of the alternative sites, if any;
- indication of all the alternatives identified;
- closest town(s);
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection).

6. LAYOUT/ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this document.

The site or route plans must indicate the following:

- the property boundaries and numbers of all the properties within 50 metres of the site;
- the current land use as well as the land use zoning of the site;
- the current land use as well as the land use zoning each of the properties adjoining the site or sites;
- the exact position of each listed activity applied for (including alternatives);
- servitude(s) indicating the purpose of the servitude;
- a legend; and
- a north arrow.

7. SENSITIVITY MAP

The layout/route plan as indicated above must be overlain with a sensitivity map that indicates all the sensitive areas associated with the site, including, but not limited to:

- watercourses;

- the 1:100 year flood line (where available or where it is required by DWS);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or infested with alien species); and
- critical biodiversity areas.

The sensitivity map must also cover areas within 100m of the site and must be attached in Appendix A.

8. SITE PHOTOGRAPHS

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under Appendix B to this report. It must be supplemented with additional photographs of relevant features on the site, if applicable.

9. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of at least 1:200 as Appendix C for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity.

10. ACTIVITY MOTIVATION

Motivate and explain the need and desirability of the activity (including demand for the activity):

1. Is the activity permitted in terms of the property's existing land use rights?	YES	NO	Please explain
Unsure - All the properties (seven erven) are zoned Agricultural 1.			
2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES ✓	NO	Please explain
The Applicant is the Local Municipality and the proposed development is a relevant priority for the Municipality in line with the PSDF.			
(b) Urban edge / Edge of Built environment for the area	YES ✓	NO	Please explain
Road reserves and the old pipeline which is being upgraded through this project, already extend beyond the formal urban edge (this development is sub-surface). The proposed pipeline alternatives lie on the edge of the urban or built up area, surrounded with agricultural activities. The land use directly east of the site is urban in nature, consisting of high density formal and informal housing. The Orange River lies to the North of the site. The existing Municipal waste water treatment works lies to the North West.			

(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).	YES	NO ✓	Please explain
The proposed new pipeline advocates a similar environmental option for the land/site as is currently in place. In additional, it will eliminate the current environmental and health problem due to blockages (and potential spillages) in the existing sewage reticulation system. It will also cater for future expansion of the local suburbs and will also save the local Municipality costs since the proposed upgrade relies more on a gravity fed system reducing the need to electrical pumps and maintenance.			
(d) Approved Structure Plan of the Municipality	YES ✓	NO	Please explain
The proposed development is an upgrade of the existing sewage outfall pipeline from Steynville in Hopetown to the existing sewage treatment works. The proposed development aims to replace the old outfall bulk sewer line with a larger diameter pipe and a new route which will enable sewage to gravitate from the settlements and eliminates the need to rely on pumped transportation of sewage. This will reduce blockages and potential sump overflows/spillages when electricity is unavailable and will also save on costs in terms of electricity and maintenance.			
(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)	YES ✓	NO	Please explain
The proposed development is an upgrade of the existing sewage outfall pipeline from Steynville in Hopetown to the existing sewage treatment works. The proposed development aims to replace the old outfall bulk sewer line with a larger diameter pipe and a new route which will enable sewage to gravitate from the settlements and eliminates the need to rely on pumped transportation of sewage. This will reduce blockages and potential sump overflows/spillages when electricity is unavailable and will also save on costs in terms of electricity and maintenance.			
(f) Any other Plans (e.g. Guide Plan)	YES	NO ✓	Please explain
No other plans are known at this stage.			
3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?	YES ✓	NO	Please explain
The Applicant is the Local Municipality and the proposed development is a relevant priority for the Municipality within the IDP.			
4. Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)	YES ✓	NO	Please explain
The proposed development is an upgrade of the existing sewage outfall pipeline from Steynville in Hopetown to the existing sewage treatment works. The proposed development aims to replace the old outfall bulk sewer line with a larger diameter pipe and a new route which will enable sewage to gravitate from the settlements and eliminates the need to rely on pumped transportation of sewage. This will reduce blockages and potential sump overflows/spillages when electricity is unavailable and will also save on costs in terms of electricity and maintenance.			

5. Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)	YES ✓	NO	Please explain
The proposed development is to address the need to upgrade existing water borne sewage removal system, as well as to cater for the potential future increase in population and subsequent expansion of Steynville/Hopetown.			
6. Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)	YES ✓	NO	Please explain
The Municipality has budgeted from the proposed development. Municipality comment to be included in final BAR.			
7. Is this project part of a national programme to address an issue of national concern or importance?	YES ✓	NO	Please explain
The proposed development falls into two of the 17 national strategic integrated projects (SIPs) viz. SIP 6 – Integrated Municipal Infrastructure Project: Develop national capacity to assist the 23 districts with the fewest resources (19 million people) to address all the backlogs and upgrades required in water, electricity and sanitation bulk infrastructure. SIP 18 – Water and Sanitation Infrastructure: A 10-year plan to address the estimated backlog of adequate water supply to 1,4 million households and 2,1 million households to basic sanitation. Projects will provide for new infrastructure, rehabilitation and upgrading of existing infrastructure, as well as improve management of water infrastructure.			
8. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)	YES ✓	NO	Please explain
The pipeline will be sub-surface and therefore, once rehabilitation of the excavation has taken place, it is not envisioned that the proposed activity's land use will significantly impact current land use/s. In addition, the proposed development aims to replace the old outfall bulk sewer line with a larger diameter pipe and a new route which will enable sewage to gravitate from the settlements and eliminate some pumping systems in the future.			
9. Is the development the best practicable environmental option for this land/site?	YES ✓	NO	Please explain
The proposed new pipeline advocates a similar environmental option for the land/site as is currently in place. In additional, it will eliminate the current environmental and health problem due to blockages (and potential spillages) in the existing sewage reticulation system. It will also cater for future expansion of the local suburbs and will also save the local Municipality costs since the proposed upgrade relies more on a gravity fed system reducing the need to electrical pumps and maintenance.			

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10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?	YES ✓	NO	Please explain
The proposed new pipeline will eliminate the current environmental and health problems due to blockages (and potential spillages) in the existing sewage reticulation system. It will also cater for future expansion of the local suburbs and will also save the local Municipality costs since the proposed upgrade relies more on a gravity fed system reducing the need to electrical pumps and maintenance.			
11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	YES	NO ✓	Please explain
The proposed development is an upgrade of an existing land use.			
12. Will any person's rights be negatively affected by the proposed activity/ies?	YES	NO ✓	Please explain
The rights and welfare of Hopetown/Steynville persons will be upheld and enhanced through the provision of reliable basic sanitation that functions efficiently.			
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?	YES	NO ✓	Please explain
Road reserves and the old pipeline already extend beyond the formal urban edge (this development is sub-surface). The proposed pipeline alternatives lie on the edge of the urban or built up area, surrounded with agricultural activities. The land use directly east of the site is urban in nature, consisting of high density formal and informal housing. The Orange River lies to the North of the site. The existing Municipal waste water treatment works lies to the North West.			
14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?	YES ✓	NO	Please explain
<p>SIP 6 – Integrated Municipal Infrastructure Project: Develop national capacity to assist the 23 districts with the fewest resources (19 million people) to address all the backlogs and upgrades required in water, electricity and sanitation bulk infrastructure.</p> <p>SIP 18 – Water and Sanitation Infrastructure: A 10-year plan to address the estimated backlog of adequate water supply to 1,4 million households and 2,1 million households to basic sanitation. Projects will provide for new infrastructure, rehabilitation and upgrading of existing infrastructure, as well as improve management of water infrastructure.</p>			
15. What will the benefits be to society in general and to the local communities?	Please explain		
The proposed new pipeline will eliminate the current environmental and health problem due to blockages (and potential spillages) in the existing sewage reticulation system. It will also cater for future expansion of the local suburbs and will also save the local Municipality costs since the proposed upgrade relies more on a gravity fed system reducing the need to electrical pumps and maintenance.			
16. Any other need and desirability considerations related to the proposed activity?	Please explain		
The proposed new pipeline will eliminate the current environmental and health problem due to blockages (and potential spillages) in the existing sewage reticulation system. It will also cater for future expansion of the local suburbs and will also save the local Municipality costs since the proposed upgrade relies more on a gravity fed system reducing the need to electrical pumps and maintenance.			

17. How does the project fit into the National Development Plan for 2030?	Please explain
The National Development Plan (NDP) aims to address one of the primary national challenges i.e. that public services are often unevenly distributed and of poor quality. The upgrade of the Steynville sewage outfall pipeline will directly contribute towards the NDP in that it will ensure the provision of an adequate and reliable water borne sewage system for the communities of Steynville/Hopetown.	
18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.	
The proposed development includes water use (Competent Authority: Department of water and Sanitation) and biodiversity (Competent Authority: Department of Agriculture, Forestry and Fisheries) related issues, both of which have been captured in this BAR.	
19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.	
The proposed development aligns with the State's responsibility to respect, protect, promote and fulfil the social and economic rights in Chapter 2 of the Constitution and in particular, the basic needs of categories of persons disadvantaged by unfair discrimination. The principle of sustainable development is also promoted through the proposed development.	

11. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations, if applicable:

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
National Environmental Management Act, No. 107 of 1998 and associated EIA Regulations 2014	Environmental Authorisation	Northern Cape Department of Environment and Nature Conservation (DENC)	Basic Assessment process is currently underway.
National Water Act, No. 36 of 1998	Water Use Licence (WUL) or General Authorisation	Department of Water and Sanitation	WUL Application initiated
National Forests Act, No. 84 of 1998	Removal/impact on protected trees; Flora Permit, Forest Act Licence	Department of Agriculture, Forestry and Fisheries (DAFF)	Application to be submitted if required.
National Heritage Resources Act, No 25 of 1999	Comment from SAHRA	South African Heritage Resources Agency (SAHRA)	Possible NID to be submitted
National Road Traffic Act, No. 93 of 1996	Comment/Permission from SANRAL	The South African National Roads Agency Ltd (SANRAL)	Request to be submitted

12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT**a) Solid waste management**

Will the activity produce solid construction waste during the construction/initiation phase?

YES ✓	NO
Not more than 6m ³	

If YES, what estimated quantity will be produced per month?

How will the construction solid waste be disposed of (describe)?

It is expected that solid domestic waste will be produced as a result of construction activities. The waste will be collected in bins and/or a skip and removed to the nearest landfill site for disposal.

Where will the construction solid waste be disposed of (describe)?

The nearest registered solid waste disposal site (probably the local Thembelihle Municipality, waste disposal site).

Will the activity produce solid waste during its operational phase?

YES	NO ✓
m ³	

If YES, what estimated quantity will be produced per month?

How will the solid waste be disposed of (describe)?

The proposed activity is installation of a new sewage pipeline for the transportation of sewage/effluent. The proposed new pipeline's operational phase will be the transportation of sewage effluent to the oxidation ponds at the local sewage treatment plant, thus eliminating the difficulties currently faced in terms of blockages and subsequent potential spillages/overflow.

If the solid waste will be disposed of into a municipal waste stream, indicate which registered landfill site will be used.

Thembelihle Municipality, Northern Cape

Where will the solid waste be disposed of if it does not feed into a municipal waste stream (describe)?

It is anticipated that the solid waste will feed into the local Municipal waste stream.

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the NEM:WA?

YES	NO
-----	----

If YES, inform the competent authority and request a change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

Unknown

Is the activity that is being applied for a solid waste handling or treatment facility?

YES	NO ✓
-----	------

If YES, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?

YES	NO ✓
-----	------

If YES, what estimated quantity will be produced per month?

N/A	m ³
-----	----------------

Will the activity produce any effluent that will be treated and/or disposed of on site?

YES	NO ✓
-----	------

*If YES, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA. **N/A***

Will the activity produce effluent that will be treated and/or disposed of at another facility?

YES	NO ✓
-----	-------------

If YES, provide the particulars of the facility: **N/A**

Facility name:			
Contact person:			
Postal address:			
Postal code:			
Telephone:		Cell:	
E-mail:		Fax:	

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

The proposed activity is the installation of a new, larger diameter sewage outfall pipeline for the Steynville community in Hope Town, Northern Cape.

c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other than exhaust emissions and dust associated with construction phase activities?

YES	NO ✓
-----	-------------

If YES, is it controlled by any legislation of any sphere of government? **N/A**

YES	NO
-----	----

If YES, the applicant must consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If NO, describe the emissions in terms of type and concentration:

Fugitive particulate emissions (dust) when excavations for the laying of the pipeline are undertaken.

d) Waste permit

Will any aspect of the activity produce waste that will require a waste permit in terms of the NEM:WA?

YES	NO ✓
-----	-------------

If YES, please submit evidence that an application for a waste permit has been submitted to the competent authority

e) Generation of noise

Will the activity generate noise?

YES ✓	NO
--------------	----

If YES, is it controlled by any legislation of any sphere of government?

YES	NO ✓
-----	-------------

Describe the noise in terms of type and level:

The noise of heavy machinery and vehicles (trucks) during transporting of pipeline and earth moving equipment during construction.
--

13. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es):

Municipal	Water board	Groundwater	River, stream, dam or lake	Other	The activity will not use water
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If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:

N/A litres

Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?

YES

NO

If YES, please provide proof that the application has been submitted to the Department of Water Affairs. **N/A**

14. ENERGY EFFICIENCY

Describe the design measures, if any, which have been taken to ensure that the activity is energy efficient:

The proposed development and new route the linear project is adopting is to enable the use of gravity to facilitate flow of effluent (sewage) instead of using fuel/electricity to pump effluent through pipeline.

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

N/A

SECTION B: SITE/AREA/PROPERTY DESCRIPTION**Important notes:**

1. For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section B and indicate the area, which is covered by each copy No. on the Site Plan.

Section B Copy No. (e.g. A):

2. Paragraphs 1 - 6 below must be completed for each alternative.

3. Has a specialist been consulted to assist with the completion of this section?

YES	NO
-----	----

If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed and attach it in Appendix I. All specialist reports must be contained in Appendix D.

Property description/physical address:

Province	Northern Cape
District Municipality	Pixley ka Seme District Municipality
Local Municipality	Thembelihle Local Municipality
Ward Number(s)	Unknown
Farm name and number	Refer to Appendix J-2
Portion number	Refer to Appendix J-2
SG Code	Refer to Appendix J-2

Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application including the same information as indicated above. **Refer to Appendix J-2**

Current land-use zoning as per local municipality IDP/records:

All the erf that the proposed linear development will potentially cross are zoned Agricultural 1.

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to, to this application.

Is a change of land-use or a consent use application required?

Note: Written consent from SANRAL to work within the road reserve and cross under a national road will be required. Also refer to Appendix J-3 Property Owner's Consent

YES	NO
<input type="text"/>	<input type="text"/>

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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Alternative S2 (if any):

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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Alternative S3 (if any):

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
------	-------------	-------------	-------------	--------------	-------------	------------------

2. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site:

2.1 Ridgeline	<input checked="" type="checkbox"/>	2.4 Closed valley	<input type="checkbox"/>	2.7 Undulating plain / low hills	<input checked="" type="checkbox"/>
2.2 Plateau	<input checked="" type="checkbox"/>	2.5 Open valley	<input type="checkbox"/>	2.8 Dune	<input type="checkbox"/>
2.3 Side slope of hill/mountain	<input type="checkbox"/>	2.6 Plain	<input type="checkbox"/>	2.9 Seafront	<input type="checkbox"/>
2.10 At sea	<input type="checkbox"/>				

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on any of the following?

	Alternative S1:		Alternative S2 (if any):		Alternative S3 (if any):	
Shallow water table (less than 1.5m deep)	YES	NO	YES	NO	YES	NO
Dolomite, sinkhole or doline areas	YES✓	NO	YES✓	NO	YES✓	NO
Seasonally wet soils (often close to water bodies)	YES	NO	YES	NO	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES	NO	YES	NO	YES	NO
Dispersive soils (soils that dissolve in water)	YES	NO	YES	NO	YES	NO
Soils with high clay content (clay fraction more than 40%)	YES	NO	YES	NO	YES	NO
Any other unstable soil or geological feature	YES	NO	YES	NO	YES✓	NO
An area sensitive to erosion	YES	NO	YES	NO	YES	NO

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted.

4. GROUNDCOVER

Indicate the types of groundcover present on the site. The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Natural veld - good condition ^E	Natural veld with scattered aliens ^E	Natural veld with heavy alien infestation ^E	Veld dominated by alien species ^E	Gardens
Sport field	Cultivated land	Paved surface	Building or other structure	Bare soil

If any of the boxes marked with an "E" is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn't have the necessary expertise.

Please Refer to Botanical Assessment in Appendix D.

5. SURFACE WATER

Indicate the surface water present on and or adjacent to the site and alternative sites?

Perennial River	YES✓	NO	UNSURE
Non-Perennial River	YES✓	NO	UNSURE
Permanent Wetland	YES	NO	UNSURE
Seasonal Wetland	YES✓	NO	UNSURE
Artificial Wetland	YES✓	NO	UNSURE
Estuarine / Lagoonal wetland	YES	NO	UNSURE

If any of the boxes marked YES or UNSURE is ticked, please provide a description of the relevant watercourse.

The Orange River lies more than 32m to the North of the proposed development route.
From Google Earth images, it is clear that all the proposed the pipeline route cross several natural watercourses/drainage lines that drain into the Orange river. Many of these watercourses are dry but despite the semi-arid conditions, one of the more eroded (and incised in some places) drainage line contained water possibly due to urban run-off/return flow out of the urban area (and possible high rainfall events).
According to the Freshwater specialist report (as per Appendix D), there is a small Upper Nama Karoo Unchanneled Valley Bottom wetland in the upper sub-catchment of the drainage line to the east of the trunk road.

6. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

Natural area	Dam or reservoir	Polo fields
Low density residential	Hospital/medical centre	Filling station ^H
Medium density residential	School	Landfill or waste treatment site
High density residential	Tertiary education facility	Plantation
Informal residential	Church	Agriculture
Retail commercial & warehousing	Old age home	River, stream or wetland
Light industrial	Sewage treatment plant ^A	Nature conservation area
Medium industrial ^{AN}	Train station or shunting yard ^N	Mountain, Koppie or ridge
Heavy industrial ^{AN}	Railway line ^N	Museum
Power station	Major road (4 lanes or more) ^N	Historical building
Office/consulting room	Airport ^N	Protected Area
Military or police base/station/compound	Harbour	Graveyard
Spoil heap or slimes dam ^A	Sport facilities	Archaeological site
Quarry, sand or borrow pit	Golf course	Other land uses (describe)

If any of the boxes marked with an "N" are ticked, how this impact will / be impacted upon by the proposed activity? Specify and explain:

N/A

If any of the boxes marked with an "A" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

There will be no negative impact on or from the sewage treatment plant. Only a positive impact will be realised since the proposed development is for the upgrade of the sewage outfall pipeline (and ultimately the upgrade of the sewage treatment plant).

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

N/A

Does the proposed site (including any alternative sites) fall within any of the following:

Critical Biodiversity Area (as per provincial conservation plan)	YES✓	NO
Core area of a protected area?	YES	NO✓
Buffer area of a protected area?	YES	NO✓
Planned expansion area of an existing protected area?	YES	NO✓
Existing offset area associated with a previous Environmental Authorisation?	YES	NO✓
Buffer area of the SKA?	YES	NO✓

If the answer to any of these questions was YES, a map indicating the affected area must be included in Appendix A, Addendum A-2.

7. CULTURAL/HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or paleontological sites, on or close (within 20m) to the site? If YES, explain:

YES✓	NO
------	----

Uncertain

An informal graveyard, close to but still outside then proposed development route/footprint exists (more than 50 m away from the proposed route). Most of the graves are unmarked, but some have headstones. The graveyard dimensions are approximately 1,5ha to 2ha and it has a Local Grade IIIB rating and high significance.

If uncertain, conduct a specialist investigation by a recognised specialist in the field (archaeology or palaeontology) to establish whether there is such a feature(s) present on or close to the site. Briefly explain the findings of the specialist:

According to the heritage specialist assessment indicates that

The lithic traces on the landscape of the study area are of low significance and the impact of the development on these resources are inconsequential. No further mitigation is required. Therefore, from a heritage point of view we recommend that the proposed development can continue.

The graveyard is not in the path of the final alternative route of the pipeline, but it is near the development. Graves do not need to be relocated to make way for development. It is therefore only recommended that the area is fenced and clearly demarcated, especially during construction, and that no construction should take place within 50 m of the perimeter thereof. If any other graves, or human remains are uncovered during construction activities, law enforcement and heritage authorities need to be notified.

Due to the low palaeontological significance of the area, no further palaeontological heritage studies, ground truthing and/or specialist mitigation are required pending the discovery of newly discovered fossils. It is considered that the development of the proposed development is deemed appropriate and feasible and will not lead to detrimental impacts on the palaeontological resources of the area. If fossil remains are discovered during any phase of construction, either on the surface or unearthed by fresh excavations, the ECO in charge of these developments ought to be alerted immediately. These discoveries ought to be protected (preferably in situ) and the ECO must report to SAHRA so that appropriate mitigation (e.g. recording, collection) can be carried out by a professional palaeontologist (Butler 2018).

Although all possible care has been taken to identify sites of cultural importance during the investigation of study areas, it is always possible that hidden or sub-surface sites could be overlooked during the assessment. If during construction, any possible discovery of finds such as stone tool scatters, artefacts, human remains, or fossils are made, the operations must be stopped, and a qualified archaeologist must be contacted for an assessment of the find.

Will any building or structure older than 60 years be affected in any way?

YES	NO✓
-----	-----

Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

YES	NO✓
-----	-----

If YES, please provide proof that this permit application has been submitted to SAHRA or the relevant provincial authority.

8. SOCIO-ECONOMIC CHARACTER

a) Local Municipality

Please provide details on the socio-economic character of the local municipality in which the proposed site(s) are situated.

Level of unemployment:

High

Economic profile of local municipality:

Low income communities

Level of education:

Unknown

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?

R Unknown

What is the expected yearly income that will be generated by or as a result of the activity?

R Unknown

Will the activity contribute to service infrastructure?

YES✓ NO

Is the activity a public amenity?

YES NO✓

How many new employment opportunities will be created in the development and construction phase of the activity/ies?

Unknown

What is the expected value of the employment opportunities during the development and construction phase?

R Unknown

What percentage of this will accrue to previously disadvantaged individuals?

90%

How many permanent new employment opportunities will be created during the operational phase of the activity?

None

What is the expected current value of the employment opportunities during the first 10 years?

R Unknown

What percentage of this will accrue to previously disadvantaged individuals?

% Unknown

9. BIODIVERSITY

Please note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the proposed activity/ies. To assist with the identification of the biodiversity occurring on site and the ecosystem status consult <http://bgis.sanbi.org> or BGIShelp@sanbi.org. Information is also available on compact disc (cd) from the Biodiversity-GIS Unit, Ph (021) 799 8698. This information may be updated from time to time and it is the applicant/EAP's responsibility to ensure that the latest version is used. A map of the relevant biodiversity information (including an indication of the habitat conditions as per (b) below) and must be provided as an overlay map to the property/site plan as Appendix A, Addendum A-2, to this report.

- a) Indicate the applicable biodiversity planning categories of all areas on site and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category)

Systematic Biodiversity Planning Category				If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan
Critical Biodiversity Area (CBA)	Ecological Support Area (ESA)	Other Natural Area (ONA)	No Natural Area Remaining (NNR)	According to the 2016 Northern Cape CBAs the region of all three route alternatives, falls within a CBA.

- b) Indicate and describe the habitat condition on site

Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing, harvesting regimes etc).
Natural	%	
Near Natural (includes areas with low to moderate level of alien invasive plants)	%	
Degraded (includes areas heavily invaded by alien plants)	100%	The proposed development footprint is located on Municipal property on disturbed to very disturbed veld (grazing together with urban influences over a long period of time has altered the vegetation composition). The proposed development will result in a temporary disturbance along the approximately 2.2 km pipeline route within a proposed CBA area.
Transformed (includes cultivation, dams, urban, plantation, roads, etc)		

- c) Complete the table to indicate:
- the type of vegetation, including its ecosystem status, present on the site; and
 - whether an aquatic ecosystem is present on site.

Terrestrial Ecosystems		Aquatic Ecosystems		
Ecosystem threat status as per the National	Critical	Wetland (including rivers, depressions, channelled and unchanneled wetlands, flats,	Estuary	Coastline
	Endangered			
	Vulnerable			

Terrestrial Ecosystems		Aquatic Ecosystems							
Environmental Management: Biodiversity Act (Act No. 10 of 2004)	Least Threatened	seeps pans, and artificial wetlands)							
		YES✓	NO	UNSURE	YES	NO✓	YES	NO✓	

- d) Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity features/information identified on site (e.g. threatened species and special habitats)

As per the Botanical Specialist report:

The majority of the pipeline route is virtually void of natural vegetation but the route will cross a variety of natural drainage lines. The BGIS Vegetation map shows that the vegetation that could be expected on site is Kimberley Thornveld. Kimberley Thornveld is considered "Least Threatened" (GN 1002, December 2011), but only 2% is currently statutorily conserved in the Vaalbos National Park, the Sandveld Bloemhof Dam and S.A. Lombard Nature Reserves, while some 18% of this vegetation is already transformed, mostly by cultivation.

The Northern Cape CBA Map (2016) identifies biodiversity priority areas, such as Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs), which, together with protected areas, are important for the persistence of a viable representative sample of all ecosystem types and species as well as the long-term ecological functioning of the landscape as a whole (Holness & Oosthuysen, 2016). The NCCBA maps were used to guide the identification of potential significant sites.

The proposed development footprint is located on Municipal property on disturbed to very disturbed veld (grazing together with urban influences over a long period of time has altered the vegetation composition).

The proposed development will result in a temporary disturbance along the approximately 2.2 km pipeline route within a proposed CBA area.

According to the Northern Cape Critical Biodiversity Areas (2016), the proposed site will impact on a CBA area, but it is also located within an area that is already significantly disturbed.

The site will not impact on any recognised centre of endemism.

As per the Freshwater Specialist report:

Anthropogenic activity can impact on any of the ecosystem drivers or responses and this can have a knock-on effect on all of the other drivers and responses. This, in turn, will predictably impact on the ecosystem services.

The driver of the drainage line is the occasional flood that follows sudden and intense rainfall events. This is followed by prolonged droughts and intense summer heat that prevents the development of any viable aquatic habitat. This is apart from shallow ground water that explains the growth of a somewhat more prolific vegetation along the drainage lines. These plants are by no means an indication of aquatic or riparian habitat.

The proposed pipeline is not about to change the ecological factors and its dynamics. It would not reduce the ability of the drainage line and surrounds to render the listed environmental services. An overhead pipeline would have some visual impact, but in an already degraded area. Aquatic environmental impacts are negligible, if the mitigation measures are adhered to.

A letter of consent or General Authorisation is recommended.

As per the Heritage Specialist report, the following recommendations are made, taking into consideration any existing or potential sustainable social and economic benefits:

The lithic traces on the landscape of the study area are of low significance and the impact of the development on these resources are inconsequential. No further mitigation is required. Therefore, from a heritage point of view we recommend that the proposed development can continue.

The historical graveyard is not in the path of the final alternative route of the pipeline, but it is near the development. Graves do not need to be relocated to make way for development. It is therefore only recommended that the area is fenced and clearly demarcated, especially during construction, and that no construction should take place within 50 m of the perimeter thereof. If any other graves, or human remains are uncovered during construction activities, law enforcement and heritage authorities need to be notified.

Due to the low palaeontological significance of the area, no further palaeontological heritage studies, ground truthing and/or specialist mitigation are required pending the discovery of newly discovered fossils. It is considered that the development of the proposed development is deemed appropriate and feasible and will not lead to detrimental impacts on the palaeontological resources of the area. If fossil remains are discovered during any phase of construction, either on the surface or unearthed by fresh excavations, the ECO in charge of these developments ought to be alerted immediately. These discoveries ought to be protected (preferably in situ) and the ECO must report to SAHRA so that appropriate mitigation (e.g. recording, collection) can be carried out by a professional palaeontologist (Butler 2018).

Although all possible care has been taken to identify sites of cultural importance during the investigation of study areas, it is always possible that hidden or sub-surface sites could be overlooked during the assessment. If during construction, any possible discovery of finds such as stone tool scatters, artefacts, human remains, or fossils are made, the operations must be stopped, and a qualified archaeologist must be contacted for an assessment of the find. UBIQUE Heritage Consultants and its personnel will not be held liable for such oversights or for costs incurred as a result of such oversights.

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	Express Northern Cape	
Date published	Wednesday, 29 August 2018	
Site notice position	Latitude	Longitude
	Refer to Appendix E.	Refer to Appendix E.
Date placed	23 August 2018	

Include proof of the placement of the relevant advertisements and notices in Appendix E1.

2. DETERMINATION OF APPROPRIATE MEASURES

Provide details of the measures taken to include all potential I&APs as required by Regulation 41(2)(e) and 41(6) of GN 733.

An initial round of public participation (PP) with the purpose of registering potential I&APs was undertaken:

Advertisement placed in local newspapers regarding project and process to register as an I&AP.

Maidrops/notifications posted to organs of state.

Posters displayed at site/on N12 and at public places as per PPP Maildrop list and PPP Placement of Posters Form in Appendix E1. (Placed A2 posters on site. Displayed A3 posters and placed maildrop letters in public facilities such as at the Municipality, OK Grocer Hope Town, DBIC Hope Town, Water Treatment Works Pump Station, entrance to local suburb)

Display A3 posters at informal settlement entrances / local shops

Delivered maildrop letters to neighbouring properties / spaza shops

A second round of PP is being undertaken with this draft BAR (DBAR) being issued to the public for comment. The comment period commences on 18 June 2019 and closes on 22 July 2019.

The DBAR and all associated documents will also be available on EnviroAfrica's website for public viewing / comment

Email, deliver or post copies of any PP documentation to querying I&APs who request them.

Update I&AP List as required.

Once comments are received on the DBAR, the DBAR will be finalised and the final BAR (FBAR) will then be issued to the competent authority (DENC) for decision.

Key stakeholders (other than organs of state) identified in terms of Regulation 41(2)(b) of GN 733

Refer to Appendix E.

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (tel number or e-mail address)

DRAFT BASIC ASSESSMENT REPORT

Include proof that the key stakeholder received written notification of the proposed activities as Appendix E2. This proof may include any of the following:

- e-mail delivery reports;
- registered mail receipts;
- courier waybills;
- signed acknowledgements of receipt; and/or
- or any other proof as agreed upon by the competent authority.

Refer to Appendix E.

3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of main issues raised by I&APs	Summary of response from EAP
02 May 2018 – receipt of letter from DENC and case officer assigned to the project i.e. Mr I. Gwija.	Cognisance taken of competent authority's response
26 June 2018 – letter from DENC (Mr I. Gwija) informing EAP that activity does trigger listed activities in terms of NEMA	Cognisance taken of competent authority's response – BAR drafted.
06 September 2018 – letter from DAFF (Ms. Jacqueline Mans) with comments on the pre-application PPP for the proposed development. Request to assess potential impacts on potentially nationally and provincially protect plants and to avoid disturbing these plants if possible. Reminder that a Flora Permit or Forest Act Licence is required before disturbing or damaging any protected plant or tree. Request to overlay the NC CBA map and ensure comments are obtained from Nature Conservation. Reminder of timeframes involved in getting a Forest Act Licence.	Cognisance taken of commenting authority's response NC CBA maps included in Appendix A, Addendum A-2.

4. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments received from I&APs and respond to each comment before the Draft BAR is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations and be attached to the Final BAR as Appendix E3.

To be attached to the Final BAR.

5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

Refer to Appendix E4.

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail	Postal address

Include proof that the Authorities and Organs of State received written notification of the proposed activities as Appendix E4.

In the case of renewable energy projects, Eskom and the SKA Project Office must be included in the list of Organs of State.

6. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for any activities (linear or other) where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that sub-regulation to the extent and in the manner as may be agreed to by the competent authority.

Proof of any such agreement must be provided, where applicable. Application for any deviation from the regulations relating to the public participation process must be submitted prior to the commencement of the public participation process.

A list of registered I&APs must be included as appendix E5.

Copies of any correspondence and minutes of any meetings held must be included in Appendix E6.

SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014 and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

1. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

Provide a summary and anticipated significance of the potential direct, indirect and cumulative impacts that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed. This impact assessment must be applied to all the identified alternatives to the activities identified in Section A(2) of this report.

All Alternatives: Please refer to Appendix F (Impact Assessment) for a summary and significance rating of the potential direct, indirect and cumulative impacts that may occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/pipeline route alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed.

Since the pipeline route forms the various alternatives for this development, the impact for the three alternatives are the same, except for

Activity	Impact summary	Significance	Proposed mitigation
Alternative 1 (preferred alternative)			
	<i>Direct impacts:</i>		
	<i>Indirect impacts:</i>		
	<i>Cumulative impacts:</i>		
	<i>Direct impacts:</i>		
	<i>Indirect impacts:</i>		
	<i>Cumulative impacts:</i>		
Alternative 2			
	<i>Direct impacts:</i>		
	<i>Indirect impacts:</i>		
	<i>Cumulative impacts:</i>		
	<i>Direct impacts:</i>		

Activity	Impact summary	Significance	Proposed mitigation
	Indirect impacts:		
	Cumulative impacts:		
Alternative 3			
	Direct impacts:		
	Indirect impacts:		
	Cumulative impacts:		
	Direct impacts:		
	Indirect impacts:		
	Cumulative impacts:		
No-go option			
	Direct impacts:		
	Indirect impacts:		
	Cumulative impacts:		

A complete impact assessment in terms of Regulation 19(3) of GN 733 must be included as Appendix F.

2. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

Please refer to Appendices D and F.

Alternative 1 (preferred alternative)

Botanical:

The proposed development footprint is located on Municipal property on disturbed to very disturbed veld (grazing together with urban influences over a long period of time has altered the vegetation composition).

The proposed development will result in a temporary disturbance along the approximately 2km pipeline route within a proposed CBA area.

According to the Northern Cape Critical Biodiversity Areas (2016), the proposed site will impact on a CBA area, but it is also located within an area that is already significantly disturbed.

The site will not impact on any recognised centre of endemism.

Freshwater:

The development of the proposed pipeline will not change the freshwater ecological factors or its dynamics. It would not reduce the ability of the drainage line and surrounds to render the listed environmental services. Should an over head pipeline be used to cross watercourses, there would be some degree of visual impact but this is in an area which is already quite degraded visually. According to the freshwater specialist, aquatic environmental impacts are negligible, if the mitigation measures (as detailed in Appendix D) are adhered to. Application for a letter of General Authorisation from DWS is recommended.

Heritage:

The lithic traces on the landscape of the study area are of low significance and the impact of the development on these resources are inconsequential. No further mitigation is required. Therefore, from a heritage point of view we recommend that the proposed development can continue.

The historical graveyard is not in the path of the final alternative route of the pipeline, but it is near the development. Graves do not need to be relocated to make way for development. It is therefore only recommended that the area is fenced and clearly demarcated, especially during construction, and that no construction should take place within 50 m of the perimeter thereof. If any other graves, or human remains are uncovered during construction activities, law enforcement and heritage authorities need to be notified.

Due to the low palaeontological significance of the area, no further palaeontological heritage studies, ground truthing and/or specialist mitigation are required pending the discovery of newly discovered fossils. It is considered that the development of the proposed development is deemed appropriate and feasible and will not lead to detrimental impacts on the palaeontological resources of the area.

Geological and Locality:

The proposed route does not involve excavations in very hard (calcrete formation) substrate and is not the longest route. It is, therefore, from a construction time and engineering cost perspective, **the most feasible and the preferred alternative.**

Alternative 2

Botanical:

The proposed development footprint is located on Municipal property on disturbed to very disturbed veld (grazing together with urban influences over a long period of time has altered the vegetation composition).

The proposed development will result in a temporary disturbance along the approximately 2km pipeline route within a proposed CBA area.

According to the Northern Cape Critical Biodiversity Areas (2016), the proposed site will impact on a CBA area, but it is also located within an area that is already significantly disturbed.

The site will not impact on any recognised centre of endemism.

Freshwater:

The development of the proposed pipeline will not change the freshwater ecological factors or its dynamics. It would not reduce the ability of the drainage line and surrounds to render the listed environmental services. Should an over head pipeline be used to cross watercourses, there would

be some degree of visual impact but this is in an area which is already quite degraded visually. According to the freshwater specialist, aquatic environmental impacts are negligible, if the mitigation measures (as detailed in Appendix D) are adhered to. Application for a letter of General Authorisation from DWS is recommended.

Heritage:

The lithic traces on the landscape of the study area are of low significance and the impact of the development on these resources are inconsequential. No further mitigation is required. Therefore, from a heritage point of view we recommend that the proposed development can continue.

The historical graveyard is not in the path of the final alternative route of the pipeline, but it is near the development. Graves do not need to be relocated to make way for development. It is therefore only recommended that the area is fenced and clearly demarcated, especially during construction, and that no construction should take place within 50 m of the perimeter thereof. If any other graves, or human remains are uncovered during construction activities, law enforcement and heritage authorities need to be notified.

Due to the low palaeontological significance of the area, no further palaeontological heritage studies, ground truthing and/or specialist mitigation are required pending the discovery of newly discovered fossils. It is considered that the development of the proposed development is deemed appropriate and feasible and will not lead to detrimental impacts on the palaeontological resources of the area.

Geological and Locality:

The proposed route does not involve excavations in very hard (calcrete formation) substrate but does follow existing roads more than Alternatives 1 and 2, locating it further north, away from the end point at the sewage outfall region before it travels back to the end point. This makes Alternative 2 the longest route and it is therefore the most expensive in terms of pipeline costs and ongoing survey and maintenance. From a sustainability and cost perspective, Alternative 2 is not the preferred alternative.

Alternative 3:

Botanical:

The proposed development footprint is located on Municipal property on disturbed to very disturbed veld (grazing together with urban influences over a long period of time has altered the vegetation composition).

The proposed development will result in a temporary disturbance along the approximately 2km pipeline route within a proposed CBA area.

According to the Northern Cape Critical Biodiversity Areas (2016), the proposed site will impact on a CBA area, but it is also located within an area that is already significantly disturbed.

The site will not impact on any recognised centre of endemism.

Freshwater:

The development of the proposed pipeline will not change the freshwater ecological factors or its dynamics. It would not reduce the ability of the drainage line and surrounds to render the listed environmental services. Should an overhead pipeline be used to cross watercourses, there would be some degree of visual impact but this is in an area which is already quite degraded visually. According to the freshwater specialist, aquatic environmental impacts are negligible, if the mitigation measures (as detailed in Appendix D) are adhered to. Application for a letter of General Authorisation from DWS is recommended.

Heritage:

The lithic traces on the landscape of the study area are of low significance and the impact of the development on these resources are inconsequential. No further mitigation is required. Therefore, from a heritage point of view we recommend that the proposed development can continue.

The historical graveyard lies directly in the path of alternative route three. It is therefore only recommended that the area is fenced and clearly demarcated, especially during construction, and that no construction should take place within 50 m of the perimeter thereof. If any other graves, or human remains are uncovered during construction activities, law enforcement and heritage authorities need to be notified.

Due to the low palaeontological significance of the area, no further palaeontological heritage studies, ground truthing and/or specialist mitigation are required pending the discovery of newly discovered fossils. It is considered that the development of the proposed development is deemed appropriate and feasible and will not lead to detrimental impacts on the palaeontological resources of the area.

Geological and Locality:

Although Alternative 3 is the shortest route in terms of pipeline length, the proposed route does cut straight through a very hard calcrete deposit as indicated in Figure 19, Appendix C. This will result in difficult, costly and time-consuming excavations and is, therefore, from a time and engineering cost perspective the least feasible option. In addition, the route passes very close to the area indicated as containing the informal graveyard. This has potential negative heritage impact implications should the recommendations of the heritage specialist not be strictly adhered to. Alternative 3 is therefore the least preferred route.

No-go alternative (compulsory)

The no-go alternative will maintain the *status quo* which currently provides an inadequate sanitation service to the local community since there are continuous difficulties with regards to blockages in the sewage reticulation system. Should the no-go alternative be pursued, the infrastructural needs to provide adequate service delivery for the current Hopetown region will be severally negatively impacted since the existing sewage outfall pipeline has proven to be inadequate to cope with the load.

In addition, future expansion of the residential areas will also be hindered since there will be no ability to soundly manage this important service.

Therefore, the no-go option is not recommended.

SECTION E. RECOMMENDATION OF PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?

YES✓

NO

If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment).

If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application.

As per the Botanical Specialist report:

The majority of the pipeline route is virtually void of natural vegetation but the route will cross a variety of natural drainage lines. The BGIS Vegetation map shows that the vegetation that could be expected on site is Kimberley Thornveld. Kimberley Thornveld is considered "Least Threatened" (GN 1002, December 2011).

The proposed development footprint is located on Municipal property on disturbed to very disturbed veld (grazing together with urban influences over a long period of time has altered the vegetation composition).

The proposed development will result in a temporary disturbance along the approximately 2.2 km pipeline route within a CBA area.

According to the Northern Cape Critical Biodiversity Areas (2016), the proposed site will impact on a CBA area, but it is also located within an area that is already significantly disturbed. Therefore, the proposed development will not impact on any recognised centre of endemism.

Refer to EMPr for more specific control measures regarding flora and fauna.

As per the Freshwater Specialist report:

Anthropogenic activity can impact on any of the ecosystem drivers or responses and this can have a knock-on effect on all of the other drivers and responses. This, in turn, will predictably impact on the ecosystem services. The WULA and the EIA must provide mitigation measures for these impacts.

The driver of the drainage line is the occasional flood that follows sudden and intense rainfall events. This is followed by prolonged droughts and intense summer heat that prevents the development of any viable aquatic habitat. This is apart from shallow ground water that explains the growth of a somewhat more prolific vegetation along the drainage lines. These plants are by no means an indication of aquatic or riparian habitat.

The proposed pipeline is not about to change the ecological factors and its dynamics. It would not reduce the ability of the drainage line and surrounds to render the listed environmental services. An overhead pipeline would have some visual impact, but in an already degraded area. Aquatic environmental impacts are negligible, if the mitigation measures are adhered to.

A letter of consent or General Authorisation is recommended.

As per the Heritage Specialist report, the following recommendations are made, taking into consideration any existing or potential sustainable social and economic benefits:

The lithic traces on the landscape of the study area are of low significance and the impact of the development on these resources are inconsequential. No further mitigation is required. Therefore,

from a heritage point of view we recommend that the proposed development can continue.

The historical graveyard is not in the path of the final alternative route of the pipeline, but it is near the development. Graves do not need to be relocated to make way for development. It is therefore only recommended that the area is fenced and clearly demarcated, especially during construction, and that no construction should take place within 50 m of the perimeter thereof. If any other graves, or human remains are uncovered during construction activities, law enforcement and heritage authorities need to be notified.

Due to the low palaeontological significance of the area, no further palaeontological heritage studies, ground truthing and/or specialist mitigation are required pending the discovery of newly discovered fossils. It is considered that the development of the proposed development is deemed appropriate and feasible and will not lead to detrimental impacts on the palaeontological resources of the area. If fossil remains are discovered during any phase of construction, either on the surface or unearched by fresh excavations, the ECO in charge of these developments ought to be alerted immediately. These discoveries ought to be protected (preferably in situ) and the ECO must report to SAHRA so that appropriate mitigation (e.g. recording, collection) can be carried out by a professional palaeontologist (Butler 2018).

Although all possible care has been taken to identify sites of cultural importance during the investigation of study areas, it is always possible that hidden or sub-surface sites could be overlooked during the assessment. If during construction, any possible discovery of finds such as stone tool scatters, artefacts, human remains, or fossils are made, the operations must be stopped, and a qualified archaeologist must be contacted for an assessment of the find.

Refer to EMPr for more specific control measures regarding heritage impacts.

Is an EMPr attached?

YES ✓

NO


The EMPr must be attached as Appendix G.

The details of the EAP who compiled the BAR and the expertise of the EAP to perform the Basic Assessment process must be included as Appendix H.

If any specialist reports were used during the compilation of this BAR, please attach the declaration of interest for each specialist in Appendix I.

Any other information relevant to this application and not previously included must be attached in Appendix J.

VIVIANNE THOMSON
NAME OF EAP


SIGNATURE OF EAP

14 JUNE 2019
DATE

SECTION F: APPENDICES

The following appendices must be attached:

Appendix A: Maps

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports (including terms of reference)

Appendix E: Public Participation

Appendix F: Impact Assessment

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Appendix I: Specialist's declaration of interest

Appendix J: Additional Information